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June 12, 2015

Mr. Kenneth Bruno
Program Manager
Gas Safety and Reliability Branch
Safety and Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Dear Mr. Bruno:

The staff of the Safety and Enforcement Division (SED) conducted a General Order (G.O.) 112-E compliance inspection of Southern California Gas Company's (SoCalGas) Orange Coast – Southwest District, Southeast Distribution Region[1] on June 2-6, 2014. SED staff reviewed operation and maintenance records and procedures pursuant to G.O. 112-E, Reference Title 49, Code of Federal Regulations (49 CFR), Parts 191 and 192.

Violations of G.O. 112-E and recommendations identified during the inspection are itemized within the "SCG Operation, Maintenance Records and Procedures – Summary of Inspection Findings" (Summary).

Attached is SoCalGas' written response and corrective actions.

Please feel free to contact me at (213) 305-8660 if you have any questions or need additional information.

Sincerely,

W. Jeff Koskie

Attachments

[1] This was erroneously identified as "Southwest Region" by SED.

SCG Operation, Maintenance Records and Procedures
Summary of Inspection Findings
June 2-6, 2014

Summary of Inspection Findings

1. **49 CFR §192.455(a) External Corrosion control: Buried or submerged pipelines installed after July 31, 1971**

"(a)Except as provided in paragraphs (b), (c), and (f) of this section, each buried or submerged pipeline installed after July 31, 1971, must be protected against external corrosion, including the following:

> *(1) It must have an external protective coating meeting the requirements of §192.461.*
> *(2) It must have a cathodic protection system designed to protect the pipeline in accordance with this subpart, installed and placed in operation within 1 year after completion of construction."*

During the field inspection, SED inspected a service steel riser located at 4900 East Chapman Avenue, City of Orange to verify compliance with cathodic protection and found that the service steel riser was not protected against external corrosion as required by this section. SCG should provide a level of protection that meet the requirements of Section §192.463 and the frequency for monitoring the service risers should comply with Section §192.465.

Response to Item 1

4900 E. Chapman Ave. consists of 125 individual service risers and meters. The location inspected during the field inspection was Laundry Room #4. Upon additional field visits and review of the original installation as-built sketch, SoCalGas discovered the property owner changed the numbering convention within the property and that some of the riser locations within the property may not have been identified as CP10s in the SoCalGas service history system.

Corrective Action

SoCalGas recognized the 125 service risers located at 4900 E. Chapman Ave. needed to be investigated to verify existing service history and CP10 history were correct. SoCalGas investigated and inspected each location to cross-reference the meter number with existing service history data. SoCalGas confirmed 95 of the locations were correctly identified in the service history system. Of the 30 incorrectly identified, 11 of them had previously been replaced with PE risers (not requiring CP). Fourteen of the risers were read with up-reads but had no historical read information, and three risers needed a #1 anode installed. These 17 locations have been updated in the service history system. Two additional locations are being identified as abandoned, and SoCalGas is still in the confirmation process.

SoCalGas is reviewing current procedures for service history data entry and processing to identify potential process and/or system improvements. Refresher training will be conducted to reinforce data entry procedures. In addition, an ongoing effort is underway to review and correct historical data, as needed.

2. 49 CFR §192.479 Atmospheric corrosion control-General

"(a) Each operator must clean and coat each pipeline or portion of pipeline that is exposed to the atmosphere, except pipelines under paragraph (c) of this section.
(b) Coating material must be suitable for the prevention of atmospheric corrosion.
(c) Except portions of pipelines in offshore splash zones or soil-to-air interfaces, the operator need not protect from atmospheric corrosion any pipeline for which the operator demonstrates by test, investigation, or experience appropriate to the environment of the pipeline that corrosion will-

(1) Only be a light surface oxide; or
(2) Not affect the safe operation of the pipeline before the next scheduled inspection."

On June 6, 2014, SED observed leak surveyor Nicolas L. Bravo performing leak survey inspection and found atmospheric corrosion on the following exposed piping and aboveground facility:

Address	**Facility**
214 17th Street, Seal Beach, CA	Corrosion on anodless riser (swollen)
222 17th Street, Seal Beach, CA	Corrosion on steel service riser
224 17th Street, Seal Beach, CA	Corrosion on steel service riser and MSA piping
226 17th Street, Seal Beach, CA	Corrosion on steel service riser
228 17th street, Seal Beach, CA	Corrosion on MSA piping

On July 24, 2013, leak surveyor Benjamin Lancaster performed leak survey inspection at the above locations and failed to identify the atmospheric corrosion on the exposed piping and the above ground facilities' conditions and take corrective action. SED recommends that SCG review Mr. Lancaster qualification and take corrective measure to address any deficiencies discovered.

Response to Item 2

As required by this section, SoCalGas responded to the identified locations and remediated all of the conditions observed.

	Work Location	Work Order Completed
1.	214 17th Street	SAP#520000831412
2.	222 17th Street	NA
3.	224 17th Street	SAP#520000832104
4.	226 17th Street	SAP#520000834112
5.	228 17th Street	SAP#520000834770

Corrective Action

Per the recommendation of SED, SoCalGas reviewed the employee's Operator Qualifications and found them compliant. Additionally, Gas Standard 223.0100 Leakage Survey – Section 7 Abnormal Operating Conditions was reviewed with the employee.

3. 49 CFR §192.707 Line markers for mains and transmission lines.

"(a) Buried pipelines. Except as provided in paragraph (b) of this section, a line marker must be placed and maintained as close as practical over each buried main and transmission line:

(1) At each crossing of a public road and railroad; and

(2) Wherever necessary to identify the location of the transmission line or main to reduce the possibility of damage or interference.

(b) Exceptions for buried pipelines. Line markers are not required for the following pipelines:

(1) Mains and transmission lines located offshore, or at crossings of or under waterways and other bodies of water.

(2) Mains in Class 3 or Class 4 locations where a damage prevention program is in effect under §192.614.

(3) Transmission lines in Class 3 or 4 locations until March 20, 1996.

(4) Transmission lines in Class 3 or 4 locations where placement of a line marker is impractical.

(c) Pipelines above ground. Line markers must be placed and maintained along each section of a main and transmission line that is located above ground in an area accessible to the public.

(d) Marker warning. The following must be written legibly on a background of sharply contrasting color on each line marker:

(1) The word "Warning," "Caution," or "Danger" followed by the words "Gas (or name of gas transported) Pipeline" all of which, except for markers in heavily developed urban areas, must be in letters at least 1 inch (25 millimeters) high with ¼ inch (6.4 millimeters) stroke.

(2) The name of the operator and telephone number (including area code) where the operator can be reached at all times."

On June 4, 2014, SED observed during field inspection that SCG Line 42-12, mile post 4.657 and Line 35-01 near Golden West & Bolsa located in class 3 location had line markers letters that were less than one inch (25 millimeters) high with ¼ inch (6.4 millimeters) stroke.

Response to Item 3

SoCalGas disagrees with the determination by SED. Regarding the use of line markers (curb markers) observed to have lettering less than 1" high and ¼" stroke, no violation occurred. These curb markers have been used, and continue to be used, as permitted by 49 CFR 192.707 (d) (1), which states:

(1) The word "Warning," "Caution," or "Danger" followed by the words "Gas (or name of gas transported) Pipeline" all of which, except for markers in heavily developed

urban areas, must be in letters at least 1 inch (25 millimeters) high with ¼ inch (6.4 millimeters) stroke.

SoCalGas utilizes these curb markers in heavily developed urban areas as necessary.

Further, these markers are used as supplemental identification in areas identified under 49 CFR 192.707(b)(2), which states:

> (b) Exceptions for buried pipelines. Line markers are not required for the following pipelines:
> (2) Mains in Class 3 or Class 4 locations where a damage prevention program is in effect under 192.614.

Finally, both pipelines identified appear to be Distribution high pressure lines operating under 20% SMYS in a Class 3 location with an existing Damage Prevention program. As a result, no line markers are required, and markers provided are supplemental.

4. 49 CFR §192.13(c) What general requirements apply to pipelines regulated under this part?

"Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part."

- SCG Gas Standard 223.0100 Pipeline Integrity, Section 7 Abnormal Operating Conditions requires corrective action when a gas meter buried in earth or paving. On June 6, 2014, SED discovered during field inspection of gas meters that the following gas meters were buried in earth:

Address	**Facility**
222 17th Street, Seal Beach, CA	Meter buried in earth
228 17th Street, Seal Beach, CA	Meter buried in earth
219 Seal Beach Blvd., Seal Beach, CA	Meter buried in earth
215 Seal Beach Blvd., Seal Beach, CA	Meter buried in earth

On July 24, 2013, leak surveyor Benjamin Lancaster performed leak survey inspection at the above locations and failed to identify the gas meter conditions and take corrective action. SED recommends that SCG review Mr. Lancaster qualification and take corrective measure to address any deficiencies discovered.

- SCG Gas Standard 184.12 Inspection of Pipelines on Bridge and Spans requires SCG employee to inspect pipe support for evidence of improper insulation between the support and the pipe. On June 4, 2014, SED discovered during field inspection of spans numbered B091 and B092 that both spans had improper insulation supports between the pipe and the support. On October 3, 2013, SCG employee inspected the spans and failed to follow SCG procedure to identify the deficiencies on SCG's bridges and spans inspection checklist, and to take action to install micarta (material inserted between the pipe and the support to prevent pipe-support contact).

Response To Item 4

As required by this section, SoCalGas responded to the identified locations and remediated all of the conditions observed.

	Work Location	Work Order Completed
1.	222 17th Street	NA / Dirt removed on 6/6/14
2.	228 17th Street	SAP#520000834770
3.	215 Seal Beach	SAP#520000841561

Corrective Action

Per the recommendation of SED, SoCalGas reviewed the employee's Operator Qualifications and found them compliant. Additionally, Gas Standard 184.12 – Section 7 Abnormal Operating Conditions was reviewed with the employee.

As required by this section, SoCalGas responded to the identified locations and remediated all of the conditions observed.

	Work Location	Work Order Completed
1.	Bridge #B091	WR #2145388
2.	Bridge #B092	WR#2145387

Summary of Inspection Recommendations

1. SCG Gas Standard 223.0125, Section 3.3-Above ground (not buried) leaks defined hazardous leaks "an above ground leak that represents an existing or probable hazard to persons or property, and requires immediate repair or continues action until the leak is repaired and the conditions are no longer hazardous" and Section 4.2.1 defined hazardous leaks "requires immediate and continues action until the leak is repaired and the conditions are no longer hazardous". SED recommend that SCG takes the necessary steps to review the procedure and make an editorial change to the definition of hazardous leaks to be consistent and to remove any confusion.

Response

As suggested by the SED, SoCalGas made an editorial change to GS 223.0125. The sections in question now read as follows:

- **HAZARDOUS LEAK** - an above ground leak that represents an existing or probable hazard to persons or property, and requires immediate repair or continuous action until the leak is repaired and the conditions are no longer hazardous.

- **Hazardous Leaks**

    - Requires immediate repair or continuous action until the leak is repaired and the conditions are no longer hazardous.

2. SCG Gas Standard 223.0125, Leak Classification and Mitigation Schedules, Section 6 Records addressed the leak cause's categorization and documentation of the above ground leaks only. SED recommend that SCG revise the standard and provide adequate training to the field personnel so that they can be able to make a sound decision to determine the proper Pipeline and Hazardous Materials Safety Administration (PHMSA) "cause" (PHMSA F7100.1-1 for annual report gas distribution system and PHMSA F7100.1-2 for annual report gas transmission system) category of the below-ground leak.

Response

SoCalGas believes the current form instructions for each operating organization recording and documenting leaks provide clear and distinct guidance to the field personnel for documenting minimum required data, including the leak Classification, Cause, and Component category. Gas Standard 223.0125 - Section 6 referenced above highlights the appropriate Form each organization utilizes for documenting and recording leaks.

6.2 **Transmission / Storage:** Leak records are documented on **Form 677-1**, Pipeline Condition and Maintenance Report and shall include the leak classification, cause, geographic location, leaking component, conditions found, and a description of the subsequent repairs or other disposition of the leak.

6.3 **Distribution:** Leak records are documented in Click Mobile (CM) on (**Form 4040)** in the Leak Investigation order. Leak repairs on mains, services and risers are documented in CM on the Leak Repair Order (PDF **Form 7010**), and leak

repairs on the MSA are documented in CM on **Form 4070** of the Leak Repair MSA order. CM repair orders are automatically generated and scheduled from the Leak Investigation order according to leak classification and "Need By" selections. When a leak is repaired on a below-ground high-pressure pipeline, a description of the subsequent repairs or other disposition of the leak is made on **Form 677-1**, *Pipeline Condition and Maintenance Report* (PCMR); CM work orders and PCMRs are to be cross-referenced. CM orders are completed and electronically filed in SAP. PCMRs are completed and filed according to **Form 677-1** instructions.

6.4 **Measurement and Regulation**: Distribution M&R inspections and leak repairs are captured by CLICK Mobile. Transmission M&R inspections and leak repairs are captured by a PDF version of the form. Above Ground Leaks will be captured using Leak Classification & Repair Form (**Form 5290** for FL and **Form 5590** for EQ).

6.5 **Customer Service Field**: Leak records are documented in PACER and shall include the leak classification, cause, facility location, leaking component, conditions found, and a description of the subsequent repairs or other disposition of the leak.

6.6 Records of leaks discovered and repairs made are filed by the appropriate Transmission District, Storage Field, Customer Service or Distribution operating organizations, and maintained for the life of the pipeline plus seven years.

3. SCG Gas Standard 184.16, Valve Inspection and Maintenance – Distribution, Section 11.5 required a temporary alternative procedure to be in place for valve that found to be inoperable but the standard did not address the time frame to repair/replace the inoperable valve. SED recommend that SCG review/revise the standard to include a time frame to repair/replace an inoperable valve.

Response

Providing a specified time to repair/replace a valve is not feasible or reasonable. Many factors must be considered, and placing a specified timeline on the repair/replacement is not practical and could result in "rushed" projects in order to meet specified timelines.

SoCalGas takes every measure to address inoperable valves and to enhance the safety and reliability of its system. GS 184.16 contains clearly defined and specific operating instructions and procedures for addressing inoperable valves. SoCalGas verifies these instructions and procedures are followed whenever an inoperable valve is identified and takes every measure to repair/replace the valve back into normal operation as soon as practicable.

4. SCG Gas Standards that are part of the Self-Audits did not include employee feedback on the effectiveness of the procedures/training programs. SED recommends that SCG review/revise its Self-Audit Worksheets to include employee feedback and participation in the evaluation to help determine the effectiveness of the procedures/training programs, including identifying how to improve them.

Response

SoCalGas Self Audit standards and procedures are designed to maintain compliance with 49 CFR 192.605(b)(8).

> ***§192.605 Procedural manual for operations, maintenance, and emergencies.***
> (8) Periodically reviewing the work done by operator personnel to determine the effectiveness, and adequacy of the procedures used in normal operation and maintenance and modifying the procedures when deficiencies are found.

SoCalGas Self Audit worksheets have been designed with a note stating the following:

> Note: If it is determined that the current procedure governing this inspection is not fully effective for identifying Abnormal Operating Conditions and taking corrective action, please notify GOS M & I Support Team.

SoCalGas' standards satisfy the code requirements. Employee feedback and participation are not requirements.

5. On July 10, 2014, SED met with SCG representative at Pico Base to witness SCG's demonstration of the leak testing procedure for PE pipe and for compliance with SCG Gas Standard 184.0150 Leak Testing of Distribution Piping. SED observed that SCG did not have a procedure in place on how to operate and calibrate the machine to ensure a valid test result of the PE pipe. SED recommends that SCG establish a procedure for operation and maintenance of the PE pipe testing machine. The procedure should be incorporated into or referenced in SCG Gas Standard 184.0150.

Response

SoCalGas will take this recommendation to its associated staff groups for review and comment.

6. SED reviewed SCG Emergency Incident Reports (EIR) and found that SCG failed to mark its facilities correctly. SCG's explanation was that a weak signal on the pipe locator tool resulted in its mismarking of the underground facilities. SED recommends that SCG should explore other alternatives to address weak signal: new technology that addresses weak signal and/or better mapping system to locate and mark the underground facilities correctly.

Response

SoCalGas will adhere to this recommendation and is continually researching and upgrading Locate and Mark field equipment and has recently implemented a state-of-the-art Geographical Information System (GIS). These tools are made readily available to our field personnel to assist in locating underground facilities. Furthermore, Gas Standard 184.0200 – Underground Service Alert and Temporary Marking, Section 7.9 advises field personnel to notify local management when locator signal and mapping records cannot verify facility location:

7.9 When both locator signal and printed records cannot verify facility locations, advise **Distribution Region** or **Transmission District management. Regions** or **Districts** consider exposing the facility if marks would otherwise be made solely as a result of a suspect property/lot line reference, surface indicators such pavement patches, valve casings, leak detection holes, or other non-verifiable best guess method.